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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/894,113

06/27/2001

Ji Zhang

CISCP214/3394

6264

22434

7590

08/06/2008

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EXAMINER

PHILIPPE, GIMS S

ART UNIT

PAPER NUMBER

2621

MAIL DATE

DELIVERY MODE

08/06/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/894,113	Applicant(s) ZHANG ET AL.	
	Examiner Gims S. Philippe	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 July 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6,8-13,16,18-21,23-26,29-36 and 39-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6,8-13,16,18-21,23-26,29-36 and 39-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on July 3rd 2008 has been entered.

Note: In order to expedite the prosecution of the application and avoid a delay of a "Notice of Non Compliant" due to wrong status identifiers of the amended claims, the examiner will perform an Examiner's Amendment to correct the deficiency.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended as follows: In the claims:

Claim 1. Replace the status identifier "Previously Presented" to –Currently Amended--;

Claim 24. Replace the status identifier "Previously Presented" to –Currently Amended--;

Claim 34. Replace the status identifier "Previously Presented" to –Currently Amended--;

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3, 6, 8-13, 16, 18-20, 23-26, 29-36, and 39-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US Patent no. 6549667) in view of Gobert (US Patent application publication no. 2002/0080052 A1).

Regarding claims 1, and 24, Fukuda discloses an apparatus and method comprising:

Identifying zero patterns in a block of transform coefficients to derive zero pattern information, wherein identifying zero pattern in a block comprises determining the location of zero values or near zero values in the block of transform coefficients (See Fig. 15, location of zero values, which are tracked by control flags A and B in Figs. 16A-

B); and performing one-dimensional inverse transform on a subset of the total number of rows and columns in the block of transform coefficients before performing one-dimensional inverse transform by using zero pattern information (See col. 10, line 18-38).

It is noted that while Fukuda identifies zero patterns across the rows and columns it does not specifically perform identification across rows having all zeros only while determining whether there are more columns or rows of zeros, as specified in the amended claims.

However, Gobert (a) identifies zero patterns across rows having only (See Gobert fig. 3 with rows having only zeros, paragraphs [0024], [0036-0037] and in claim 10, (b) performs one dimensional inverse transform while determining whether there are more columns or rows of zeros (See paragraph [0036], [0040] and (c) rescales the data to meet bandwidth constraints (See paragraph [0006], lines 8-15).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Fukuda's zero pattern recognition method by providing Gobert' steps of identifying zero patterns across rows containing only zero or across rows and columns containing only zero, performing the one-dimensional IDCT, and rescaling to meet data constraint. The motivation for performing such a modification in Fukuda is to make use of the presence of zero rows or zero columns for each matrix to be transformed in term of saving calculations which reduces power consumption as taught by Gobert in paragraph [0040].

As per claims 2, 8, 10, 12, 18, 20, 25, 31 and 33, the encoding disclosed in as noted in col. 1, lines 26-67, is an MPEG encoding.

As per claim 23, transcoding is suggested in Fukuda's col. 15, lines 23-64.

As per claims 3, 13, 26, 30, most of the limitations of these claims have been noted in the above rejection if claim 1. In addition, Fukuda further discloses the method wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients (See Fukuda col. 10, lines 18-38).

As per claims 6, 16, 29, most of the limitations of this claim have been noted in the above rejection if claim 5. In addition, Fukuda further discloses the method wherein performing one-dimensional inverse transforms further comprises performing one-dimensional transforms on all the columns in the block of transform coefficients (Since the data represented in Fig. 15 is merely exemplary of image transformed data, there clearly exists the possibility of having non-zero data in every column, so that in such a case, all columns would be inverse transformed).

As per claims 9, 19, and 32, Fukuda further discloses the same method wherein performing one-dimensional inverse transforms occurs during decoding (See col. 7, from line 60 to col. 8, line 27, and Fig. 9 and 12 are clearly part of the decoding system).

As per claim 11, See the most of the limitations of this claim have been noted in the above rejection if claim 1. In addition, Fukuda further discloses the method provides “processing” hardware and memory in col. 5, lines 12-17, and col. 34, lines 20-42.

As per claim 34, most of the limitations of this claim have been noted in the above rejection of claims 1, 11, and 24.

While Fukuda does not specifically disclose a computer readable medium, it proposes a CPU in col. 4, lines 53-67 and col. 4, lines 1-5. Therefore, it is considered that one skilled in the art at the time of the invention would recognize the advantage of using a computer readable medium along with the CPU for the purpose of providing a portable programs.

As per claims 35, 41 and 43, the encoding disclosed in as noted in col. 1, lines 26-67, is an MPEG encoding.

As per claims 36, 39, and 42, most of the limitations of these claims have been noted in the above rejection if claim 34. In addition, Fukuda further discloses the method wherein performing one-dimensional inverse transforms comprises performing one-dimensional transforms on a subset of the total number of columns in the block of transform coefficients (See Fukuda col. 10, lines 18-38).

As per claim 40, transcoding is suggested in Fukuda’s col. 15, lines 23-64.

4. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fukuda (US Patent no. 6549667) in view of Gobert as noted in the rejections of the claims above, in view of Lee (US Patent no. 6,763,070).

As per claim 21, most of the limitations of this claim have been noted in the above rejection of claim 11.

It is noted that the combination of Fukuda and Gobert is silent about a memory associated with a cable modem headend line card as specified in claims 21 and 22.

Lee discloses an apparatus and method for performing one-dimensional inverse transforms wherein a memory associated with a cable modem headend line card (See Lee col. 14, lines 29-38 and Lee col. 4, lines 25-40).

Therefore, it is considered obvious that one skilled in the art at the time of the invention would recognize the advantage of modifying Fukuda's transform/rescaling operations by providing Lee's cable modem headend line card, and Lee's configuration. The motivation for performing such modifications in Fukuda is not only to implement a stand-alone system, but also to be able to use different networks having different bandwidth constraints as taught by Lee.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gims S. Philippe whose telephone number is (571) 272-7336. The examiner can normally be reached on M-F (10:30-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on (571) 272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gims S Philippe
Primary Examiner
Art Unit 2621

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